Data Science -Day 01

Deerwalk College

To introduce myself:

AI/ML Engineer
Javra Software

About Me:

Interests

NLP
Data Sceience
Image Segmentation

Love teaching & learning concepts

Introduce yourself

- Name
- Where you from?
- Any goals, ambitions ?
- What are your expectations from this course
- Any interesting fact about you

Syllabus

- Introduction to Data Science
- Statistics for Data Science
- Numpy
- Pandas
- Matplotlib and Searbon
- Exploratory Data Analysis (Univariate and Multivariate Data Analysis)
- Introduction to Machine Learning
- Unsupervised and Supervised Machine Learning
- Linear Regression
- *Logistic Regression*
- *Neural Networking*

Project

- Form a group of 4–5 students and select one domain such as healthcare, finance, education, agriculture, or environment.
- Choose a suitable dataset from Kaggle, UCI Repository, Google Dataset Search, or any open data source.
- Study at least one research paper related to the selected domain and machine learning prediction task.
- Perform data analysis and preprocessing, including cleaning data, handling missing values, and creating visualizations.
- Apply a machine learning algorithm for prediction, evaluate the result, and present findings with report, code, and slides.

What is Data Science?

Data science is the practice of using data to understand what happened, why it happened, what is likely to happen next, and what actions to take.

At a basic level, it combines:

- statistics for finding patterns
- programming for working with data at scale
- domain knowledge for asking useful questions
- communication for explaining results clearly

Some Key Areas

Descriptive analytics: what happened
Diagnostic analytics: why it happened
Predictive analytics: what may happen
Prescriptive analytics: what should be done

- Useful tools often include Python, SQL, spreadsheets, visualization tools, and libraries such as pandas, NumPy, matplotlib, and scikit-learn.

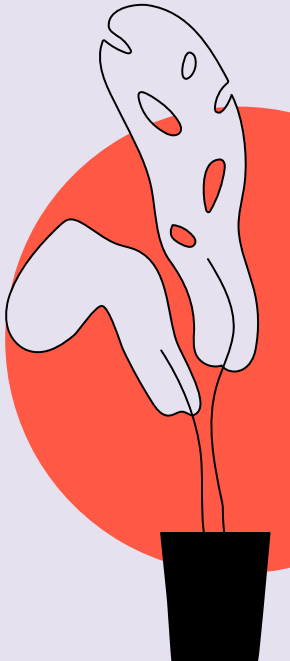
Data wrangling

Did you know?

Python’s name was not inspired by the snake but by the British comedy group Monty Python’s Flying Circus

Agendas

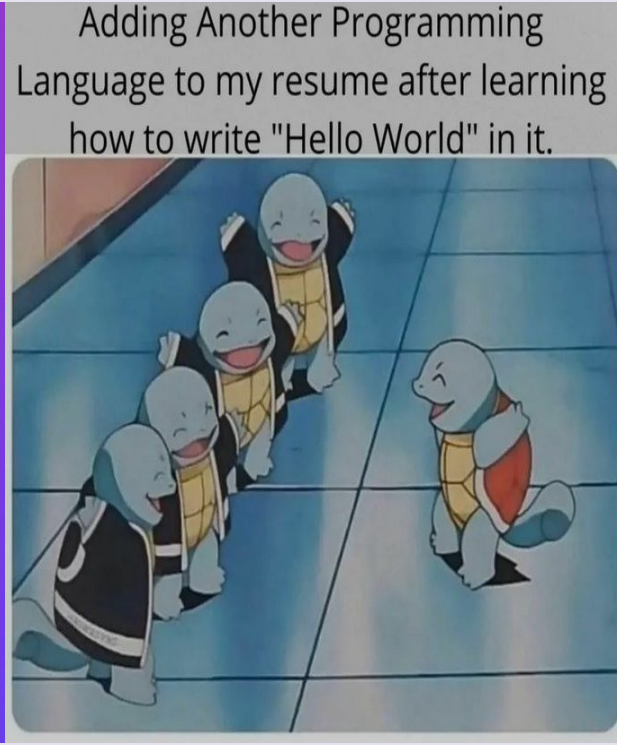
Hello World	LOOPs	Methods
Data Types	List , Sets,	range()
Comparison	Functions	lambda



Hello World

Hello World

```
print("Hello World")
```



Variables & Strings

Variables & Strings

```
item1 = "rent"
```

Formatting Output

Formatting Output

```
print("My name is {} and my roll number is {}".format(name,num))
```

Functions in Python

Function in Python

```
def last_participant(instructor,*participant):

#     print(type(participant))
    print("The instructor is ",instructor)
    print("The last participant is " + participant[-1])

last_participant("Anish","Suraj", "Sushan", "Samman")
```

Dictionary

Dictionary

```
d={"Microprocessor":'Gajendra
Sharma',"MCSC":"Gokul","DSA":"Deni","DBMS":"Rajani"}
d
```

NOTE: Don’t name your dictionary myDict leads to weird conditions

List

List

```
nest =[1,2,[3,4,[5]]]
```

Tuple & Sets

Tuple

```
point =(4,5)
point
```

Sets

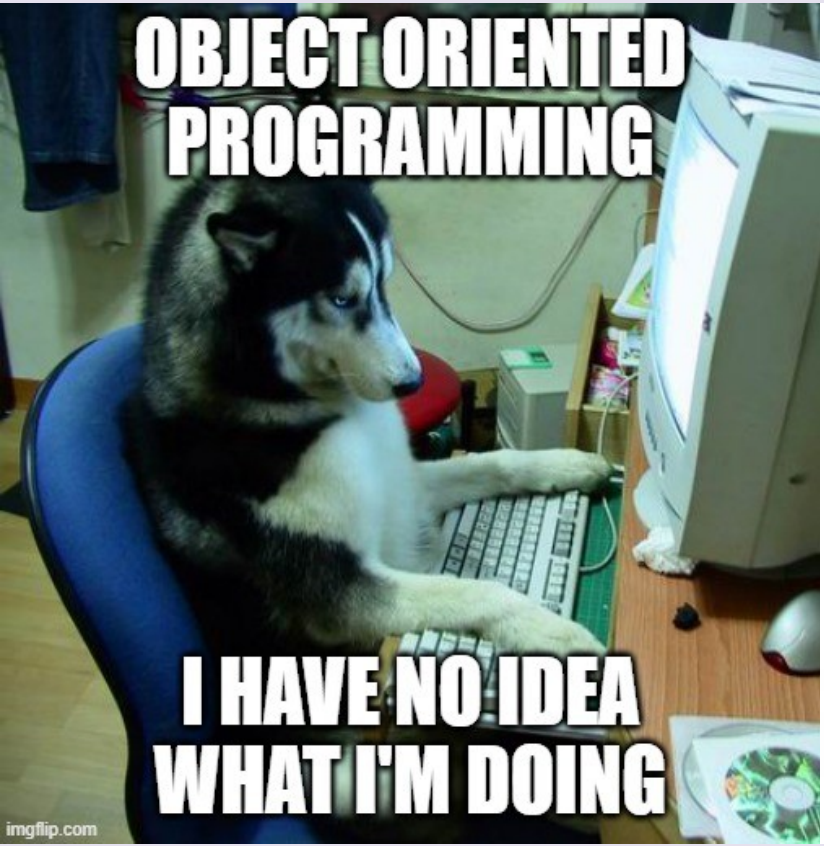
```
{1,1,1,2,2,3,3}
```

Lambda Function

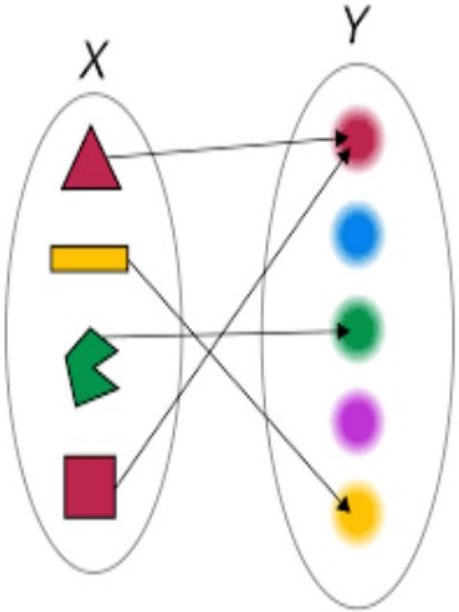
IAMBDA FUNCTION

```
t = lambda var :var*2
t(6)
```

Class


OBJECT ORIENTED PROGRAMMING
I HAVE NO IDEA WHAT I'M DOING
imgflip.com

map AND filter



map(cook, [🐷, 🌽, 🥚, 🥕]) → [🥓, 🍟, 🍳, 🍟]

filter(non_vegan, [🥓, 🍟, 🍳, 🍟]) → [🥓, 🍳]